What is claimed is:

1. An image taking apparatus comprising:

a zoom optical system that forms an optical image of an object with a variable magnification, the zoom optical system including an aperture stop in an optical path;

a solid-state image-sensing device that has a photoreceptive surface on which the solid-state image-sensing device receives the optical image formed by the zoom optical system, the solid-state image-sensing device converting the optical image into an electrical image signal to output the electrical image signal;

a shutter that shuts off with predetermined timing the optical image incident on the photoreceptive surface of the solid-state image-sensing device, the shutter being disposed on an optical axis of the zoom optical system but at a different position from the aperture stop included therein, the shutter being kept stationary relative to the solid-state image-sensing device during zooming; and

an optical member that has an optical power and constitutes part of the zoom optical system, the optical member being disposed closer to the solid-state image-sensing device than the shutter is.

2. An image taking apparatus as claimed in claim 1, wherein the zoom optical system has a lens unit having a negative optical power disposed at an object-side end thereof.

3. An image taking apparatus as claimed in claim 2, wherein the lens unit having a negative optical power disposed at the object-side end of the zoom optical system is kept stationary relative to the solid-state image-sensing device during zooming.

4. An image taking apparatus as claimed in claim 1, wherein the zoom optical system includes a reflective member disposed in the optical path so as to bend the optical axis at substantially 90°.

5. An image taking apparatus as claimed in claim 4, wherein the following condition is fulfilled:

$$4 > Dref / Ymax > 2.5$$

where

Dref represents a sum of axial distances between an object-side optical component located immediately in front of the reflective member and an image-side optical component located immediately behind the reflective member; and

Ymax represents a maximum image height.

6. An image taking apparatus as claimed in claim 1, wherein the zoom optical system has a lens unit having a negative optical power disposed at an object-side end thereof, the lens unit including a reflective member disposed in the optical path so as to bend the optical axis at substantially 90°.

7. An image taking apparatus as claimed in claim 6, wherein the following condition is fulfilled:

$$4 > Dref / Ymax > 2.5$$

where

Dref represents a sum of axial distances between an object-side optical component located immediately in front of the reflective member and an image-side optical component located immediately behind the reflective member; and

Ymax represents a maximum image height.

8. An image taking apparatus as claimed in claim 1, wherein the zoom optical system includes, from an object-side end thereof, a first lens unit having a negative optical power, a second lens unit having a positive optical power, and a third lens unit having a positive optical power and disposed at an image-side end thereof, the third lens unit corresponding to the optical member.

9. An image taking apparatus as claimed in claim 8, wherein the zoom optical system includes, from an object-side end thereof, a first lens unit having a negative optical power, a second lens unit having a positive optical power, and a third lens unit having a positive optical power.

10. An image taking apparatus as claimed in claim 8, wherein the first lens unit is kept stationary relative to the solid-state image-sensing device during zooming.

11. An image taking apparatus as claimed in claim 8, wherein the second lens unit moves toward an image side during zooming from a shortest-focal-length state to a longest-focal-length state.

12. An image taking apparatus as claimed in claim 8, wherein the third lens unit moves along a U-shaped trajectory convex to an image side during zooming from a shortest-focal-length state to a longest-focal-length state.

13. An image taking apparatus as claimed in claim 8, wherein the shutter is disposed on an image side of the second lens unit.

14. An image taking apparatus as claimed in claim 8, wherein the aperture stop is included in the second lens unit.

15. An image taking apparatus as claimed in claim 14, wherein the aperture stop is disposed on an object side of the second lens unit and, as the second lens unit moves, the aperture stop moves together therewith.

16. An image taking apparatus as claimed in claim 1, wherein the solid-state image-sensing device is an image-sensing device of an interlaced scanning type.

17. An image taking apparatus as claimed in claim 1, wherein the solid-state image-sensing device is an image-sensing device of a progressive scanning type.

18. A camera comprising:

an image taking apparatus comprising:

a zoom optical system that forms an optical image of an object with a variable

magnification, the zoom optical system including an aperture stop in an optical path;

a solid-state image-sensing device that has a photoreceptive surface on which the solid-state image-sensing device receives the optical image formed by the zoom optical system, the solid-state image-sensing device converting the optical image into an electrical image signal to output the electrical image signal;

a shutter that shuts off with predetermined timing the optical image incident on the photoreceptive surface of the solid-state image-sensing device, the shutter being disposed on an optical axis of the zoom optical system but at a different position from the aperture stop included therein, the shutter being kept stationary relative to the solid-state image-sensing device during zooming; and

an optical member that has an optical power and constitutes part of the zoom optical system, the optical member being disposed closer to the solid-state image-sensing device than the shutter is; and

an image processor that processes the image signal output from the solid-state image-sensing device in a way necessary to record and/or display an image based on the image signal.

19. A camera as claimed in claim 18, wherein the zoom optical system has a lens unit having a negative optical power disposed at an object-side end thereof.

20. A camera as claimed in claim 19, wherein the lens unit having a negative optical power disposed at the object-side end of the zoom optical system is kept stationary relative to the solid-state image-sensing device during zooming.

21. A camera as claimed in claim 18, wherein the zoom optical system includes a reflective member disposed in the optical path so as to bend the optical axis at substantially 90°.

22. A camera as claimed in claim 21, wherein the following condition is fulfilled:

$$4 > Dref / Ymax > 2.5$$

where

Dref represents a sum of axial distances between an object-side optical component located immediately in front of the reflective member and an image-side optical component located immediately behind the reflective member; and

Ymax represents a maximum image height.

23. A camera as claimed in claim 18, wherein the zoom optical system has a lens unit having a negative optical power disposed at an object-side end thereof, the lens unit including a reflective member disposed in the optical path so as to bend the optical axis at substantially 90°.

24. A camera as claimed in claim 23, wherein the following condition is fulfilled:

$$4 > Dref / Ymax > 2.5$$

where

Dref represents a sum of axial distances between an object-side optical component located immediately in front of the reflective member and an image-side optical component located immediately behind the reflective member; and

Ymax represents a maximum image height.

25. A camera as claimed in claim 18, wherein the zoom optical system includes, from an object-side end thereof, a first lens unit having a negative optical power, a second lens unit having a positive optical power, and a third lens unit having a positive optical power and disposed at an image-side end thereof, the third lens unit corresponding to the optical member.

26. A camera as claimed in claim 25, wherein the zoom optical system includes, from an object-side end thereof, a first lens unit having a negative optical power, a second lens unit having a positive optical power, and a third lens unit having a positive optical power.

27. A camera as claimed in claim 25, wherein the first lens unit is kept stationary relative to the solid-state image-sensing device during zooming.

28. A camera as claimed in claim 25, wherein the second lens unit moves toward an image side during zooming from a shortest-focal-length state to a longest-focal-length state.

29. A camera as claimed in claim 25, wherein the third lens unit moves along a U-shaped trajectory convex to an image side during zooming from a shortest-focal-length state to a longest-focal-length state.

30. A camera as claimed in claim 25, wherein the shutter is disposed on an image side of the second lens unit.

31. A camera as claimed in claim 25, wherein the aperture stop is included in the second lens unit.

32. A camera as claimed in claim 31, wherein the aperture stop is disposed on an object side of the second lens unit and, as the second lens unit moves, the aperture stop moves together therewith.

33. A camera as claimed in claim 18, wherein the solid-state image-sensing device is an image-sensing device of an interlaced scanning type.

34. A camera as claimed in claim 18, wherein the solid-state image-sensing device is an image-sensing device of a progressive scanning type.